

What is claimed is:

1. A thin film magnetic head, comprising:

a yoke layer disposed so as to be recessed from a recording-medium-facing surface facing a recording medium moving in a predetermined direction of medium movement; and

a pole layer disposed on a medium-outgoing side of the yoke layer in the direction of medium movement so as to be exposed to the recording-medium-facing surface,

wherein a portion of the pole layer is connected to a portion of the yoke layer.

2. A thin film magnetic head according to claim 1, wherein

the yoke layer extends from a first position recessed from the recording-medium-facing surface to a second position at the rear of the first position,

the pole layer extends from the recording-medium-facing surface to the second position, and has a smaller width than the width of the yoke layer.

3. A thin film magnetic head according to claim 1, wherein

the yoke layer extends from a first position recessed from the recording-medium-facing surface to a second position at the rear of the first position, and

the pole layer extends from the recording-medium-facing surface to a third position between the first position and the second position.

4. A thin film magnetic head according to claim 3, wherein the yoke layer includes:

a connecting portion having a part connected to the pole layer, and  
a yoke widening portion having a larger width than the width of the connecting portion.

5. A thin film magnetic head according to claim 4, further comprising:

a thin film coil generating magnetic flux, and having a winding structure wound around an end portion of the yoke layer on a side farther from the recording-medium-facing surface,

wherein assuming that an area of an end surface of the end portion in the yoke layer is SE, and an area of a sectional surface of the connecting portion parallel to the recording-medium-facing surface is SD, an area ratio  $SD/SE$  is within a range of  $0.008 \leq SD/SE \leq 0.3$ .

6. A thin film magnetic head according to claim 1, wherein

a recession is disposed in at least a part of a portion of the yoke layer except for a portion connected to the pole layer.

7. A thin film magnetic head according to claim 1, wherein

the pole layer includes:

a uniform width portion being exposed to the recording-medium-facing surface, and having a uniform width determining a recording track width of the recording medium, and

a pole widening portion having a larger width than the width of the uniform width portion.

8. A thin film magnetic head according to claim 1, further comprising:

an auxiliary pole layer disposed on the medium-outgoing side of the pole layer so as to be recessed from the recording-medium-facing surface.

9. A thin film magnetic head according to claim 1, wherein

the pole layer emits magnetic flux for magnetizing the recording medium in a direction perpendicular to a surface of the recording medium.

10. A method of manufacturing a thin film magnetic head, comprising the steps of:

forming a yoke layer so as to be recessed from a recording-medium-facing surface facing a recording medium moving in a predetermined direction of medium movement; and

forming a pole layer on a medium-outgoing side of the yoke layer in the direction of medium movement so as to be exposed to the recording-medium-facing surface,

wherein a portion of the pole layer is connected to a portion of the yoke layer.

11. A method of manufacturing a thin film magnetic head according to claim 10,

wherein the step of forming the yoke layer includes the steps of:

forming a precursor yoke layer pattern;

forming a precursor pole layer so that the precursor yoke layer pattern is covered with the precursor pole layer; and

forming the pole layer through etching the precursor pole layer to be patterned, and forming the yoke layer through continuously etching at least a part of a portion of the precursor yoke layer pattern except for a portion to be connected to the pole layer so as to be recessed.